

**PATENT**

Attorney Docket No.: P3D4-US



**CERTIFICATE OF MAILING BY "FIRST CLASS MAIL" 37 C.F.R. §1.8**

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Michelle White

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In the application of: Eldridge et al.

Application No.: 09/746,960

Filing Date: December 21, 2000

For: ELECTRICAL CONTACT STRUCTURES  
FORMED BY CONFIGURING A FLEXIBLE  
WIRE TO HAVE A SPRINGABLE SHAPE  
AND OVERCOATING THE WIRE WITH AT  
LEAST ONE LAYER OF A RESILIENT  
CONDUCTIVE MATERIAL, METHODS OF  
MOUNTING THE CONTACT  
STRUCTURES TO ELECTRONIC  
COMPONENTS, AND APPLICATIONS  
FOR EMPLOYING THE CONTACT  
STRUCTURES

Examiner: K. Cuneo

Group Art Unit: 3621

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**INFORMATION DISCLOSURE STATEMENT (IDS)**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Listed on an attached Form PTO/SB/08A is information known to applicant(s). Copies of the cited references are not being provided at this time, since they are a part of the record in the parent Application No. 08/452,255, filed May 26, 1995, to which this application claims priority.

Applicants respectfully request that the listed information be considered by the Examiner and be made of record in the above-identified application. The Examiner is requested to initial and return the attached Form PTO/SB/08A in accordance with MPEP §609.

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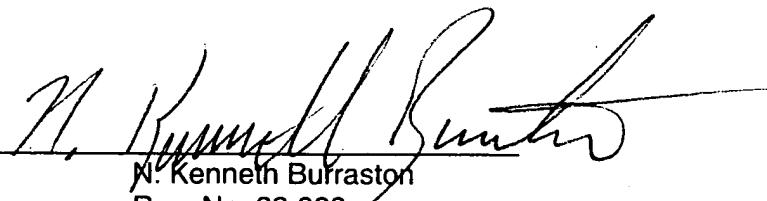
This statement is not intended to represent that a search has been made or that the information cited in the statement is, or is considered to be, material to patentability as defined in §1.56.

- This statement qualifies under *37 C.F.R. §1.97*, subsection (b) because (check all that apply):
- (1) It is being filed within 3 months of the application filing date (other than the filing date of a continued prosecution application under §1.53(d))  
-- OR --
- (2) It is being filed within 3 months of entry of a national stage  
-- OR --
- (3) It is being filed before the mail date of the first Office Action on the merits  
-- OR --
- (4) It is being filed before the mail date of the first Office Action after the filing of a request for continued examination under §1.114.
- 37 C.F.R. §1.97(c)*. If this statement is being filed after the latest of: (1) three months beyond the filing date of a national application; (2) three months beyond the date of entry of the national stage as set forth in §1.491 in an international application; (3) the mailing date of a first Office action on the merits, or (4) the mailing date of a first Office Action after the filing of a request for continued examination under §1.114, but before the mailing date of the earlier of a final office action under §1.113, a notice of allowance under §1.311, or an action that otherwise closes prosecution in the application, then:
- a statement as specified in §1.97(e) is provided below; **or**
- a fee of \$180.00 as set forth in §1.17(p) is authorized below, enclosed, or included with the payment of other papers filed together with this statement.
- 37 C.F.R. §1.97(d)*. If this statement is being filed after the mailing date of the earlier of a final office action under §1.113, a notice of allowance under §1.311, or an action that otherwise closes prosecution in the application, but before payment of the issue fee, then:
- A. a statement as specified in §1.97(e) is provided below; **and**
- B. a fee of \$180.00 as set forth in §1.17(p) is authorized below, enclosed, or included with the payment of other papers filed together with this statement.

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- Fee Authorization.* Applicants hereby authorize the Commissioner to charge the above fee of \$180.00 to Deposit Account No. 50-0285 (Order No. P3D4-US). Although Applicants believe that no fee is due in connection with the filing of this paper, the Commissioner is hereby authorized to charge any additional fees due, or credit any overpayment associated, with this communication to Deposit Account No. 50-0285 (order no. P3D4-US).

Respectfully submitted,

By:   
N. Kenneth Burraston  
Reg. No. 39,923

FormFactor, Inc.  
Legal Department  
2140 Research Drive  
Livermore, CA 94550  
Telephone: (925) 294-4300

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Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Complete If Known	
Application Number	09/746,960
Filing Date	12/21/2000
First Named Inventor	Eldridge et al.
Group Art Unit	3621
Examiner Name	K. Cuneo
Attorney Docket No.	P3D4-US

Sheet

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of

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U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant	Publication Date	Relevant Portions
		Number	Kind Code <sup>2</sup>			
	1	3271851		Hays	9/1996	
	2	3753665		McCary et al.	8/1973	
	3	3844909		McCary et al.	10/1974	
	4	4659437		Shiba et al.	4/1987	
	5	4764848		Simpson	8/1988	
	6	4893172		Matsumoto et al.	1/1990	
	7	4955523		Carlomagno et al.	9/1990	
	8	4998885		Beaman	3/1991	
	9	5037023		Akiyama et al.	8/1991	
	10	5045975		Cray et al.	9/1991	
	11	5189507		Carlomagno et al.	2/1993	
	12	5210939		Malik et al.	5/1993	
	13	5294039		Pai et al.	3/1994	
	14	5309324		Herandez et al.	5/1994	
	15	5455390		DiStefano et al.	10/1992	
	16	5476211		Khandros	12/1992	
	17	5518939		DiStefano et al.	5/1993	
	18	5601740		Eldridge et al.	2/1997	
	19	5608966		Donner et al.	3/1997	
	20	5665654		Stansbury	9/1997	

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**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant	Publication Date	Relevant Portions	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup>				
21	DE	2354256				10/1973		
22	DE	2540321				9/1975		
23	DE	2618867				4/1976		
24	DE	2652077				5/1978		
25	DE	3129568				4/1982		
26	DE	3704200				8/1988		

Examiner Signature	Date Considered
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication

<sup>1</sup>Unique citation designation number. <sup>2</sup>See attached Kinds of U.S. Patent Documents. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup>Applicant is to place a check mark here if English language Translation is attached.

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STATEMENT BY APPLICANT**

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Group Art Unit	3621
Examiner Name	K. Cuneo
Attorney Docket No.	P3D4-US

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	27	DE	3709222			9/1988		
	28	DE	3744099			2/1989		
	29	DE	4232745			3/1994		
	30	EP	0 002 166			5/1979		
	31	EP	0 205 190			12/1986		
	32	EP	0 396248			11/1990		
	33	EP	0432361			6/1991		
	34	EP	0500074			8/1992		
	35	EP	0528367			2/1993		
	36	EP	0593966			4/1994		
	37	EP	0610631			8/1994		
	38	EP	0642163			3/1995		
	39	FR	2 622 741			5/1989		
	40	FR	2643753			8/1990		
	41	JP	56021354			2/1981		
	42	JP	57012543			1/1982		
	43	JP	60097655			11/1983		
	44	JP	59155161			9/1984		
	45	JP	59211253			11/1984		
	46	JP	60236252			11/1985		
	47	JP	61051838			3/1986		
	48	JP	61160958			7/1986		
	49	JP	61170054			7/1986		
	50	JP	61287254			12/1986		
	51	JP	61291991			12/1986		
	52	JP	62097360			5/1987		
	53	JP	62105459			5/1987		
	54	JP	62113457			5/1987		
	55	JP	62120057			6/1987		
	56	JP	02034949			2/1990		
	57	JP	02183538			7/1990		
	58	JP	3142847			6/1991		
	59	JP	05259334			10/1993		

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Examiner Name	K. Cuneo
Attorney Docket No.	P3D4-US

**OTHER PRIOR ART – NONPATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T <sup>2</sup>
	60	"Method of Testing Chips and Joining Chips to Substrates" Research Disclosure, No. 322, p.130, February 1991.	
	61	"Bitmetal VLSI Chip Interconnections" IBM Technical Disclosure Bulletin, Vol.29, No. 11, pp. 5021-5022, April 1987.	
	62	"Method for Large Board Engineering Changes and Repair", IBM Technical Disclosure Bulletin, Vol.37, No. 02B, pp. 583-585, February 1994.	
	63	"Engineering Change Interposer" IBM Technical Disclosure Bulletin, Vol.37, No. 9, p.157, September 1994.	
	64	Ensworth, G.B., "Method of Testing Chips and Joining Chips to Substrates, 2244 Research Disclosure, No. 322, February 1991.	
	65	"Bare-Chip-Attachment Method Spread I/O, Permits Pre-testing", 2328 Electronic Design, Vol.39, No. 10, May 23, 1991.	
	66	IBM Technical Disclosure Bulletin, Vol. 29, No. 8, p.3754, January 1987.	

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Application No.: 09/746,960

Attorney Docket No.: P3D4-US

Inventor: Benjamin N. Eldridge et al.

Date Due: \_\_\_\_\_

Title: ELECTRICAL CONTACT STRUCTURES FORMED BY CONFIGURING A FLEXIBLE WIRE TO HAVE A SPRINGABLE SHAPE AND OVERCOATING THE WIRE WITH AT LEAST ONE LAYER OF A RESILIENT CONDUCTIVE MATERIAL, METHODS OF MOUNTING THE CONTACT STRUCTURES TO ELECTRONIC COMPONENTS, AND APPLICATIONS FOR EMPLOYING THE CONTACT STRUCTURES

Receipt is hereby acknowledged of the following:

References Cited

- Patent Application (No. pgs \_\_ )  
 Information Disclosure Statement w/PTO 1449  
 Drawings \_\_\_\_ Sheets  
 Declaration and Power of Attorney  
 Assignment w/Cover Sheet  
 Check No., in the amount of \$  
 Revocation/Power of Attorney & Change of Corres. Address  
 Certification under 3.73  
 \_\_\_\_\_ Transmittal

- Petition for Extension of Time  
 Resp. to Notice to File Missing Parts  
 Restriction Response  
 Issue Fee Transmittal  
 Submission of Formal Drawings  
 Notice of Appeal  
 Appeal Brief  
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